

IN THE SPECIFICATION

At page 1, lines 5-8:

This application is a CIP of application serial no. 09/788,811, filed February 20, 2001, abandoned and PCT/US00/33612, filed December 11, 2000, which is a CIP of 09/734,479, filed December 11, 2000, abandoned, which is a CIP of 09/458,281, filed December 10, 1999, abandoned.

At page 5, lines 16-20:

Figure 10 plots the thermoforming processing window at 371 °C (or 700 °F) oven temperature for medium-draw food containers from Example 6, Comparative Example 15 and a 50/50 blend of the two.

At page 4, line 18:

In one embodiment the present invention relates to a copolymer comprising: from 90 to 99.999 weight percent of propylene units, from 0.00 to 8 weight percent of olefin units other than propylene units, and from 0.001 to 2.000 weight percent of α,ω -diene units; wherein the copolymer has a weight average molecular weight in the range of from 50,000 to 2,000,000; a crystallization temperature in the range from 118 °C to 135 °C; and a melt flow rate in the range from 0.1 dg/min to 100 dg/min.

One embodiment of the invention relates to a propylene copolymer comprising: propylene and 1,9-decadiene, said copolymer having: a weight average molecular weight in the range of from 100,000 to 750,000; a melt flow rate in the range of from 1 dg/min to 35 dg/min; a crystallization temperature in the range of from 118°C to 126°C; a melting point of less than 160°C or at least two crystalline populations wherein the melting point ranges for one crystalline population are distinguishable from the melting point range of another crystalline population by a melting point range of from 1°C to 8°C, wherein in said at least two crystalline populations one of said crystalline populations has a melting point of from 152°C to 158°C and another said crystalline population has a melting point of from 142°C to

148°C; a hexane extractable level (as measured by 21 CFR 177.1520(d)(3)(i)) of the copolymer of less than 1.0 wt%; and a ratio of extensional viscosity at break to linear viscosity of at least 3.5 at strain rates from 0.1 second⁻¹ to 1.0 second⁻¹; and, a recoverable compliance in the range of from 7 to 42 cm²/dyne.

Another embodiment of the present invention relates to a propylene copolymer comprising: from 90 to 99.995 weight percent propylene; from 0.005 to 0.0375 weight percent of an α,ω diene selected from one of 1,7-octadiene or 1,9-decadiene, wherein said copolymer has: a weight average molecular weight in the range of from 100,000 to 750,000; a melt flow rate in the range of from 1 dg/min to 35 dg/min; a crystallization temperature in the range of from 118°C to 126°C; a melting point of less than 160°C; and a recoverable compliance in the range of from 7 to 17 cm²/dyne.

Another embodiment of the present invention relates to a copolymer comprising: from 90 to 99.999 weight percent of propylene units, from 0.01 to 8 weight percent ethylene units, and from 0.001 to 2.000 weight percent α,ω -diene units, wherein the copolymer has a weight average molecular weight in the range of from 50,000 to 2,000,000, a crystallization temperature in the range of from 118 °C to 135 °C and a melt flow rate in the range of from 0.1 dg/min to 100 dg/min.

Another embodiment of the present invention relates to a copolymer comprising: from 90 to 99.999 weight percent of olefin units and from 0.001 to 2.000 weight percent of α,ω -diene units wherein the copolymer has a weight average molecular weight in a range of from 50,000 to 2,000,000; and a melt flow rate in a range of from 0.1 dg/min to 100 dg/min; wherein the copolymer has at least two crystalline populations wherein one of the crystalline populations has a first melting point in a first melting point range and another crystalline population has a second melting point in a second melting point range and wherein the first melting point range is distinguishable from the second melting point range by 1°C to 8°C.

Another embodiment of the present invention relates to a copolymer comprising: from 90 to 99.999 weight percent of olefin units and from 0.001 to 2.000 weight percent of α,ω -diene units wherein the copolymer has a weight average molecular weight in a range of from 50,000 to 2,000,000; and a melt flow rate in a range of from 0.1 dg/min to 100 dg/min; wherein the copolymer has one crystalline

population having a melting point in the range of from 152 °C to 158 °C and another crystalline population having a melting point in the range from 142 °C to 148 °C.

Another embodiment of the present invention relates to a copolymer comprising: from 90 to 99.999 weight percent of olefin units and from 0.001 to 2.000 weight percent of α,ω -diene units wherein the copolymer has a weight average molecular weight in a range of from 50,000 to 2,000,000; a melt flow rate in a range from 0.1 dg/min to 100 dg/min; wherein the copolymer melting temperature minus the crystallization temperature is 25-39 °C.

Another embodiment of the present invention relates to a propylene copolymer comprising: propylene; olefin units other than propylene; and α, ω diene units; wherein said propylene copolymer has: a weight average molecular weight in the range of from 50,000 to 2,000,000; a crystallization temperature in the range of from 115°C to 135°C; a melt flow rate in the range of from 0.1 dg/min to 100 dg/min; a melting point less than 165°C; wherein the hexane extractable level (as measured by 21 CFR 177.1520(d)(3)(i)) of the copolymer of less than 2.0 wt%; a ratio of extensional viscosity at break to linear viscosity of at least 2.5 at strain rates from 0.1 second⁻¹ to 1.0 second⁻¹; and a recoverable compliance in the range of from 7 to 42 cm²/dyne.

In any of the embodiments described herein, the copolymer may have at least two crystalline populations. Optionally, the two crystalline populations may have a first melting point in a first melting point range and another crystalline population may have a second melting point in a second melting point range wherein the first melting point range is distinguishable from the second melting point range by a temperature range of from 1°C to 8°C. In one embodiment one of the crystalline populations has a melting point in the range from 152 °C to 158 °C and another crystalline population has a melting point in the range from 142 °C to 148 °C.

In any of the embodiments described herein, the weight percent of α,ω -diene units present in the copolymer may be from 0.005 to 1.5.

In any of the embodiments described the weight percent of α,ω -diene units present in the copolymer may be from 0.005 to 1.0.

In any of the embodiments described herein, the olefin is selected from the group consisting of ethylene, C₃-C₁₀ α -olefins, diolefins and mixtures thereof.

In any of the embodiments described herein, the comonomer may be selected for example from the group consisting of ethylene, butene-1, pentene-1, hexene-1, heptene-1, 4-methyl-1-pentene, 3-methyl-1-pentene, 4-methyl-1-hexene, 5-methyl-1-hexene, 1-octene, 1-decene, 1-undecene, and 1-dodecene.

In any of the embodiments described herein, the melting temperature minus the crystallization temperature of the copolymer is 25-40 °C.

In any of the embodiments described herein the copolymer crystallization temperature is from 115-135 °C.